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wherein the luminous flux passing through a peripheral part of said first surface is reflected at a peripheral part of said second surface, is again reflected at a central part of said first surface and imaged on an optical axis of the lens element.

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28. (Amended) An optical system comprising,  
a lens element for focusing incident luminous flux at a predetermined position, said lens element having, from a long conjugate distance side, a first surface concave to the long conjugate distance side and a second surface convex to a side opposite to the long conjugate distance side,

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wherein the luminous flux passing through a peripheral part of said first surface is reflected once at a peripheral part of said second surface, is thereafter reflected a second time at a central part of said first surface and imaged on an optical axis of the lens element upon said second reflection.

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#### REMARKS

In response to the Office Action dated April 17, 2002, Applicants respectfully request reconsideration and withdrawal of the rejections and objection to the claims.

Claim 21 was objected to on the grounds that it depends from a claim with a higher number. As pointed out in the Request to Withdraw Finality of the Office Action filed July 12, 2002, this objection was traversed in the response filed on March 26, 2002. In that response, Applicants requested that, if the objection was maintained, the Examiner provide a basis for it. Although the objection was repeated in the most recent Office



Action, with respect to claim 21, the Action does not address the substance of the Applicants' prior traversal, nor does it provide any support for the objection. Without such, Applicants are at a loss to respond further. Accordingly, if the objection is maintained, the Examiner is requested to explain the basis for the objection, e.g. in the statute, regulations and/or MPEP. In the absence of such, it is respectfully submitted that the objection should be withdrawn for the reasons presented previously.

Claims 9, 10 and 28 were rejected under the second paragraph of 35 U.S.C. §112, as being indefinite. The rejection states that the term "strongly convex" is a subjective limitation which cannot be quantified. In response thereto, claims 9 and 28 have been amended to delete the word "strongly" and thereby remove the basis for the rejection. Since these claims were not rejected in view of any prior art references, it is believed that these amendments place the claims in condition for allowance.

Claim 25 was rejected under 35 U.S.C. §102 as being anticipated by the Braun patent. Claim 25 recites an optical system comprising a lens element having a first concave surface on the long conjugate distance side thereof. With respect to this claimed feature, the Office Action refers to the statement appearing in the Braun patent at column 3, lines 33-34, to the effect that the surface 18 may be curved. From this statement, the Office Action concludes "it inherently could then be concave."

As set forth in MPEP §2112, "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic" (emphasis in original). Rather, the Manual goes on to state "'In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical



reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art," citing from Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). In the present situation, the disclosure that the surface 18 may be curved does not *necessarily* mean that this surface is concave. In fact, in the rejection of claim 1, the Examiner interpreted this same statement to mean that the surface 18 is convex. If it can be convex, it cannot necessarily be concave. Hence, the suggestion in the reference that the surface 18 may be curved does not constitute a disclosure that the surface is concave, as recited in claim 25.

Claim 25 goes on to recite that the first concave surface has "a reflective coating on a central portion thereof," and that the second, convex surface on the opposite side has "a reflective coating on a peripheral portion thereof." The rejection of claim 25 does not address either of these claimed features. It is respectfully submitted that the Braun patent does not disclose a reflective coating on either of the surfaces 18 or 22 of the lens. Rather, as stated at column 2, lines 46-52:

at the second side surface 22, *some of the light is transmitted out of the optical means*, ... When the light again reaches the first surface 18 *some of it is transmitted out of the optical means*...

The fact that some of the light is transmitted out of the optical element at each of these surfaces suggests against the presence of a reflective coating. Accordingly, the Braun patent does not anticipate the subject matter of claim 25.



Claims 1, 2, 13, 14, 21-24 and 26 were rejected under 35 U.S.C. §103 as being unpatentable over the Braun patent in view of the Medina Puerto et al. patent. In essence, the rejection contends that the Braun patent discloses all of the features recited in these claims, with the exception of an aspherical lens surface. To this end, the rejections rely upon the disclosure of the Medina Puerto et al. patent, and conclude that it would be obvious to modify the lens structure of the Braun patent to include aspherical surfaces.

In their prior response, Applicants pointed out that such a modification would not, in fact, be obvious to one of ordinary skill in the art, since it is directly contrary to the explicit teachings of the Braun patent. In responding to this argument, the most recent Office Action states:

Braun...doesn't state that the invention cannot incorporate an aspherical surface, Braun is merely disclosing that his lens has aspherical surface.

It is respectfully submitted that the Braun patent does not "merely" disclose that the lens has aspherical surface. Rather, as pointed out in Applicants' prior response, the Braun patent states "The optical structure is not limited to any particular configuration in accordance with the invention but *requires* a spherical shaped surface and at least one additional surface." (Emphasis added). Consistent with this requirement, it is to be noted that each of the independent claims of the Braun patent explicitly states that a surface of the optical structure is spherically curved. By explicitly *requiring* that the surface be spherical in shape, the Braun patent clearly is teaching away from using optical surfaces having different shapes, e.g. aspherical. It is respectfully submitted that it is improper to ignore

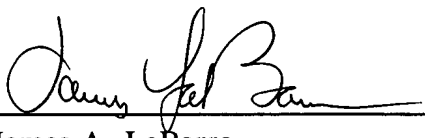


this explicit teaching of the reference. When considering the reference *as a whole*, one of ordinary skill in the art would not be motivated to modify it as suggested in the rejection.

For the foregoing reasons, therefore, it is respectfully submitted that all pending claims are patentable over the prior art of record. Reconsideration and withdrawal of the rejections is therefore respectfully requested.

Respectfully submitted,

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**Attachment to Amendment dated August 19, 2002**

**Marked-up Claims 9 and 28**

9. (Thrice Amended) An optical system comprising,  
  
a lens element for focusing incident luminous flux at a predetermined position, said lens element having, from a long conjugate distance side, a first surface concave to the long conjugate distance side and a second aspherical surface [strongly] convex to a side opposite to the long conjugate distance side,  
  
wherein the luminous flux passing through a peripheral part of said first surface is reflected at a peripheral part of said second surface, is again reflected at a central part of said first surface and imaged on an optical axis of the lens element.

28. (Amended) An optical system comprising,  
  
a lens element for focusing incident luminous flux at a predetermined position, said lens element having, from a long conjugate distance side, a first surface concave to the long conjugate distance side and a second surface [strongly] convex to a side opposite to the long conjugate distance side,  
  
wherein the luminous flux passing through a peripheral part of said first surface is reflected once at a peripheral part of said second surface, is thereafter reflected a second time at a central part of said first surface and imaged on an optical axis of the lens element upon said second reflection.